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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,796	08/23/2005	Thomas Braig	CH8305/LeA 36,174	9928

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Lanxess Corporation
Law & Intellectual Property Department
100 Bayer Road
Pittsburgh, PA 15205-9745

EXAMINER

LEE, DORIS L

ART UNIT	PAPER NUMBER
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1796

MAIL DATE	DELIVERY MODE
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06/23/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/520,796	Applicant(s) BRAIG ET AL.	
	Examiner Doris L. Lee	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-9 and 11-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-9 and 11-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

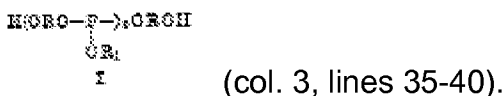
1. All outstanding objections and rejections, except for those maintained below, are withdrawn in light of applicant's amendment filed on April 4, 2008.
2. The new grounds of rejection set forth below are necessitated by applicant's amendment filed on April 4, 2008. Thus, the following action is properly made final.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

Claim Rejections - 35 USC § 103

4. **Claims 1, 4, 7-8 and 12-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Larrison (US 3,378,524)** in view of **Rawlings et al (US 4,066,617)**.

Regarding claims 1, 7 and 8, Larrison teaches a composition comprising of

- 20-99.99 % of a thermoplastic, such as polyester and polystyrene (col. 4, lines 6-12 and Example 18)
- 0.01 to 20% (col. 3, lines 63-65) of a polymeric phosphite with the following structure

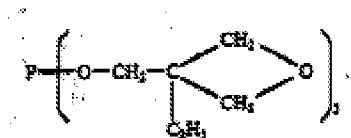


This polymeric phosphite is synthesized via triphenyl phosphite and a diol such as bisphenol-A (col. 2, lines 27-60). Larrison teaches that n is 1 or more, such as 10, 50 or 100 (col. 3, line 43) and that R is the divalent residue of (a) the dihydric phenol, (b) the aromatic dihydric alcohol or (c) the hydrogenated dihydric phenol (col. 3, line 40-42).

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However, Larrison fails to teach the polymeric phosphite with the oxetane group as with the structure as elucidated in instant claim 1.

Rawlings discloses a polyester material poly (alkylene terephthalate) discloses a triphenyl phosphite having oxetane groups with the following structure:



(col. 2, lines 50-57).

Rawlings also teaches that this material provides improved resistance to color and molecular weight degradation during melt processing (col. 1, lines 42-45).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the triphenyl phosphate having the oxetane groups of Rawlings to synthesize the polymeric phosphate of Larrison. One would have been motivated to do so in order to receive the expected benefit of providing improved resistance to color and molecular weight degradation during melt processing (Rawlings col. 1, lines 42-45). They are combinable because they are concerned with the same field of endeavor, namely phosphites which stabilize polymer resins. Absent objective evidence to the contrary and based upon the prior art there would have been a reasonable expectation of success.

Although the prior art does not explicitly state the amounts recited in the instant claim, it is well settled that where the prior art describes the components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a prima facie case of obviousness is established. See *In re Harris*, 409

F.3d 1339, 1343, 74 USPQ2d 1951, 1953 (Fed. Cir 2005); In re Peterson, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); In re Woodruff, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); In re Malagari, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974).

Regarding claim 4, modified Larrison discloses all of the limitations as set forth above.

In addition, modified Larrison teaches that the thermoplastic is polybutylene terephthalate (Rawlings, col. 1, line 15-20).

Regarding claims 12 and 13, modified Larrison all the limitations as set forth above.

In addition, modified Larrison teaches a process for producing molded bodies and the molded part produced using the said process (Larrison, col. 4, lines 13-14).

5. **Claims 2-3, 5 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Larrison (US 3,378,524)** in view of **Rawlings et al (US 4,066,617)** and **Magerstedt et al (US 5,726,227)** and **Bollen et al (US 3,956,229)**.

Regarding claims 2 and 11, modified Larrison discloses some of the limitations as set forth in paragraph 4 above.

However, modified Larrison fails to teach the addition of a filler and/or reinforcing material, a flame retarding additive, a thermoplastic that is different from component (B), an elastomer modifier, and other conventional additives.

Magerstedt teaches a thermoplastic material (Abstract) with a phosphite polymer containing an oxetane group (col. 5, lines 1-10). Magerstedt also teaches that the thermoplastic material can contain

- up to 45 % by weight of filler and reinforcing material (col. 1, lines 55-60) such as glass fiber (col. 11, line 63).
- up to 20 % by weight of a halogenated compound (col. 1, lines 60-63).

Halogenated compounds are suitable as flame retardants (col. 12, lines 8-12).

- up to 30 % by weight of an elastomer modifier (col. 1, lines 66-67)
- the addition of conventional additives (col. 13, lines 48-57)

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the filler/reinforcing material, the flame retardant, the elastomer modifier and the conventional additives of Magerstedt in the composition of modified Larrison. One would have been motivated in order to receive the expected benefit of using the filler and reinforcing material to strengthen the composition, using the flame retardant to improve the thermoplastic's ability to withstand heat and flames, using the elastomer modifier to reduce brittleness and improved elasticity and resistance to tearing and using the conventional additives such as pigments to color the composition. They are combinable because they are concerned with the same field of endeavor, namely thermoplastics with polymeric phosphites with oxetane groups. Absent objective evidence to the contrary and based upon teachings of the prior art, there would have been a reasonable expectation of success.

Regarding the amount of filler/reinforcing material and the amount of elastomer modifier, it is well settled that where the prior art describes the components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a prima facie case of obviousness is established. See *In re Harris*, 409 F.3d 1339, 1343, 74 USPQ2d 1951, 1953 (Fed. Cir 2005); *In re Peterson*, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974).

Although the amount of flame retardant and other conventional additives taught in the prior art does not overlap the amount of flame retardant recited in the instant claim, it is the examiner's position that the values are close enough that one of ordinary skill in the art would have expected the same properties. Case law holds that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).

Modified Larrison also fails to teach the addition of a second thermoplastic component that is different from component B.

Bollen teaches a polyethylene terephthalate resin (Abstract) (which is a form of polyester) in which 15-40 parts by weight of polycarbonate is added to the composition (Abstract). Bollen teaches that this blend is easily thermoformable into shaped articles

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that possess high toughness, impact resistance and heat resistance (col. 4, lines 57-59).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the polycarbonate of Bollen into the polyester composition of modified Larrison. One would have been motivated to do so in order to receive the expected benefit of a material which has high toughness, impact resistance and heat resistance (Bollen, col. 4, lines 57-59). They are combinable because they are concerned with the same field of endeavor, namely thermoplastics. Absent objective evidence to the contrary and based upon teachings of the prior art, there would have been a reasonable expectation of success.

Regarding claims 3 and 5, modified Larrison teaches all the limitations as discussed in the rejection for claim 2 above.

In addition, modified Larrison teaches that the thermoplastic B) is a polyethylene terephthalate and that the further thermoplastic E) is a polycarbonate (Bollen, abstract).

6. **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Larrison (US 3,378,524)** in view of **Rawlings et al (US 4,066,617)** and **Elmers et al (US 4,073,769)**.

Regarding claim 9, modified Larrison discloses some of the limitations as discussed in the rejection of claim 1 above.

However, it does not explicitly teach that the polymeric phosphate has the structural element as listed in the instant claim.

Elmers teaches a polymeric phosphite (abstract), that stabilizes polycarbonates against discoloration against heat (col. 1, lines 29-30) which is synthesized by a triphenyl phosphite, bisphenol A and ethyl-3-hydroxymethyl oxetane (col. 11, Example 1) which will give the repeat unit as recited in the instant claim.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the repeating unit of the phosphite of Elmers in the composition of modified Elmers. One would have been motivated to do so in order to receive the expected benefit of protecting the thermoplastic from discoloration against the heat (Elmers, col. 1, lines 29-30). They are combinable because they are concerned with the same field of endeavor, namely thermoplastics that have polymeric phosphites. Absent objective evidence to the contrary and based upon the teachings of the prior art, there would have been a reasonable expectation of success.

Response to Arguments

7. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Doris L. Lee whose telephone number is (571)270-3872. The examiner can normally be reached on Monday - Thursday 7:30 am to 5 pm and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Doris L Lee/
Examiner, Art Unit 1796

/VASUDEVAN S. JAGANNATHAN/
Supervisory Patent Examiner, Art Unit 1796